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**Remarks/Arguments:**

**I. Status**

The Office Action dated July 13, 2004 (the "Office Action") has been carefully reviewed. Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

**II. 35 U.S.C. § 103 Rejection.**

Claims 35 and 39 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,752,548 to Matsumoto et al. (hereinafter "Matsumoto"). Matsumoto does not anticipate the baffle recited in claim 35 or claim 39, as amended.

*Discussion re Claim 35*

**Matsumoto Does Not Disclose a Wider Trailing Edge**

The Examiner alleged that Matsumoto anticipates claim 35 in that Matsumoto discloses "another downstream surface wider than the upstream surface". (Office Action at page ). Respectfully, Matsumoto does not disclose a baffle as claimed.

Specifically, claim 35 recites "a trailing downstream surface portion wider than said upstream surface portion." Accordingly, the claim not only recites a "downstream surface portion" that is wider than the upstream surface portion, but the claim further recites that the downstream surface portion must be a *trailing* portion. As defined in *The American Heritage® Dictionary of the English Language, Fourth Edition*, a "trailing edge" is "the rearmost edge of a moving structure, such as an airfoil." Thus, the trailing

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portion of a blade is the area of the blade that a liquid contacts as it is flowing off of the blade.

Matsumoto specifically identifies the "trailing edge" of the blade 24 as "point A." (Matsumoto at column 3, lines 49-50). As clearly depicted in FIG. 4, the trailing edge (point A) is identical in shape to the leading edge. Likewise, the leading edge (point B) and trailing edge (point C) of the bottom blade 25 are identically tapered. (See Matsumoto at FIG. 4, column 3, lines 65-67 and column 4 lines 15-16). An edge which tapers into the pipe in the same manner as another edge cannot be "wider" than the other edge.

In contrast, one embodiment of the recited "trailing downstream surface portion wider than said upstream surface portion" is shown in Applicant's FIG. 5, wherein the rounded end 44 is clearly wider than the tapered end 46. (See also Applicant's specification at page 8, paragraph 29).

Therefore, because Matsumoto fails to disclose a trailing downstream portion that is wider than the leading upstream portion, Matsumoto does anticipate the baffle of claim 35. Accordingly, the Examiner is respectfully requested to withdraw the rejection of claim 35.

#### *Discussion re Claim 39*

##### Matsumoto Does Not Disclose an Arcuate Inner Edge

The Examiner alleged that Matsumoto anticipates claim 39. (Office Action at page ). Claim 39 has been amended to more clearly distinguish over the blade of Matsumoto.

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Specifically, claim 39 recites "an inner edge arcuately extending from the upstream portion to the downstream portion so as to define a concavity along the edge of the baffle." Accordingly, the edge of the baffle that is not in contact with the mixing chamber must be curved in a concave manner. The inner edges of the Matsumoto blades are not curved. As clearly depicted in FIG. 2, the inner edges of both baffles 24 and 25 are straight. A straight edge is not a curved edge.

The Applicant notes, however, that FIG. 2 shows an inner edge of the baffle 25 that appears to be angled. Any such angling of the inner edge is not described. Nor does it appear to be consistent with the depiction of the inner edge of the baffle 25 clearly shown in FIG. 4. Nonetheless, even if the inner edge of the baffle is angled, such an angle defines a convexity. Claim 39, as amended, recites an inner edge defining a concavity. A convexity is the opposite of a concavity.

Therefore, because Matsumoto fails to disclose an inner edge that is curved so as to define a concavity, Matsumoto does not anticipate the baffle of claim 39. Accordingly, the Examiner is respectfully requested to withdraw the rejection of claim 39.

### III. First 35 U.S.C. § 103 Rejection.

Claims 28-42 were rejected under 35 U.S.C. § 103 as being obvious over U.S. Patent No. 5,203,496 to Kline (hereinafter "Kline") in view of U.S. Patent No. 5,758,967 to King (hereinafter "King"). Reconsideration of claims 28-42 in view of the following remarks is respectfully requested.

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*Discussion re Claim 28*

1. There is no Motivation to Combine the References

In the Office Action, it was stated that the motivation to modify the baffles of Kline to have a wider downstream portion as allegedly disclosed by King was "to provide for better mixing". (Office Action at page 4). Respectfully, the Office Action has failed to identify sufficient authority for the foregoing allegation.

Specifically, the Federal Circuit has stated that "[the] factual question of motivation is material to patentability, and [cannot] be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to '[use] that which the inventor taught against its teacher.'" *In re Lee*, 277 F.3d 1338, 1343-1344 (Fed. Cir. 2002)(internal citations omitted). Significantly, the Federal Circuit in *In re Lee* determined that an examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" did not adequately address the issue of motivation to combine. (*Id.* at 1343).

Similarly, in the rejection of claim 28, the Office Action includes conclusory statements but has not identified any art that discusses the advantages of a wider downstream baffle or of why such a teaching should be combined with an orifice baffle as taught by Kline, assuming arguendo that such a modification is possible. Moreover, the Office Action has not identified any authority for the conclusory statement that such a

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modification would result in better mixing. This is particularly troublesome in that the device of King is directed to avoiding *clogging* of the pipe from “fibers, clumps and particulates” (King at column 3, lines 21-23), while the device of claim 28 is directed to mixing hot and cold water that presumably does not have any such contaminants.

Therefore, the Office Action does not set forth a sufficient basis or identify a proper source for the proposed motivation to combine the teachings of Kline with the teachings of King. Accordingly, under MPEP § 2143.01, the Examiner has failed to present a *prima facie* case of obviousness and the rejection of claim 28 under 35 U.S.C. 103(a) should be withdrawn.

2. The Proposed Modification Does Not Arrive at the Invention of Claim 28

The Office Action includes a proposed modification of the orifice type baffle of Kline to include “a leading upstream surface portion and a trailing downstream surface portion.” (Office Action at page 3). As an initial matter, it is not clear how this modification can be made to Kline’s device in which each of the baffles 37-39 is “disc shaped and defines an elongated or oblong opening 40, 41 and 42 respectively therethrough.” (Kline at column 4, lines 5-8 and FIGs. 3-5).

Moreover, while it is not clear how such a modification would be accomplished, any such modification would not arrive at the invention of claim 28. The cited figures in King, FIGs. 7 and 9, show symmetrically formed mixing elements 33, 34, 35 and 36. (See, e.g. FIGs. 7-9). As stated in King, the mixing elements are “of a circular segment configuration.” (See King at FIG. 8 and column 5, lines 41-44). Thus, the trailing downstream portion is identical to the leading upstream portion.

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Accordingly, modifying a feature of the baffle disclosed by Kline to include the circular segment configuration of King results in a baffle with a trailing downstream portion that is identical to the leading upstream portion. A trailing downstream portion that is *identical* to a leading upstream portion is not the same as a trailing downstream surface portion that is *wider* than the leading upstream surface portion as recited in the Applicant's claims.

Thus, modifying Kline to include the "circular segment configuration" of King does not arrive at the invention recited in claim 28. Therefore, under MPEP § 2143.03, the Examiner has failed to present a *prima facie* case of obviousness and the rejection of claim 28 under 35 U.S.C. 103(a) should be withdrawn.

3. Conclusion as to Claim 28

Therefore, for any or all of the above reasons, it is respectfully submitted that a *prima facie* case of obviousness has not been established and the Examiner is respectfully requested to withdraw the rejection of claim 28 under 35 U.S.C. 103(a).

*Discussion re claims 29-34*

Claims 29-34 depend from independent claim 28 and are allowable for that reason. Specifically, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Independent claim 28 is nonobvious at least for the reasons set forth above. Thus, claims 30-34 are also nonobvious and are patentable over the prior art.

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*Discussion re Claims 29 and 31*

Moreover, the dependent claims are patentable on their own merit. For example, claims 29 and 31 further define the baffle configuration. Claim 29 recites a baffle that runs about 210 degrees and claim 31 recites a baffle with a paisley shape. An “obvious to try” argument was applied to propose modifying the baffle of Kline to include the limitations recited by claims 29 and 31. Respectfully, there is no motivation for either of the proposed modifications.

Specifically, the Office Action includes the allegation that a baffle run of 210 degrees is “a mere choice of mechanical expedients” and that a paisley shaped baffle is “an obvious choice of mechanical design to alter the shape.” (Office Action at page 3). The Examiner further asserted that motivation for choosing a baffle run of 210 degrees was to “arrive at optimum working values” and the motivation to select a paisley shape was “to change the flow profile”.

As set forth above, the Federal Circuit has stated that “[the] factual question of motivation is material to patentability, and [cannot] be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to ‘[use] that which the inventor taught against its teacher.’” *In re Lee*, 277 F.3d at 1343-1344 (internal citations omitted).

Regarding the rejection of claims 29 and 31, the Office Action does not identify any art that discusses the advantages of a baffle run of about 210 degrees as compared to any other run or of a paisley shaped baffle. Moreover, the Office Action does not

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identify any authority for the conclusory statement that such limitations are mere design choices. This is particularly relevant in consideration of the fact that Kline discloses an orifice baffle and it is unclear how one could design an orifice type baffle to either 1) run about 210 degrees or 2) have a paisley shape. In contrast, the Applicant has explained the non-obvious benefits of these features of the claimed baffle, such as to impart a full turning action to the fluid while minimizing turbulence and pressure drops, and maintaining a circular center opening. (See Specification, paragraphs 27-29).

Therefore, it is respectfully submitted that the Examiner has failed to identify any motivation, suggestion, or teaching of the desirability of making the proposed modification to the prior art. Accordingly, The Examiner has failed to show a *prima facie* case of obviousness and the rejection of claims 29 and 31 under 35 U.S.C. 103(a) should be withdrawn.

*Discussion re claims 35-38*

Claim 35 is an independent claim that was rejected on the same basis as claim 28. Claim 35 recites "a trailing downstream surface portion wider than said upstream surface portion." This is the same limitation discussed above with respect to claim 28. Therefore, claim 35 is allowable over the cited art for at least the reasons set forth above with respect to claim 28.

Claims 36-38 were rejected on the same basis as claim 35. Claims 36-38 depend from independent claim 35 and include all of the limitations of claim 35. Therefore, claims 36-38 are allowable for at least for the reasons set forth above.



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*Discussion re claim 39*

1. There is No Motivation for the Proposed Modification

An “obvious to try” argument was also applied to propose modifying the baffle of Kline to include a paisley shape. To the extent this was intended to address the limitation in claim 39 of “an inner edge arcuately extending from the upstream portion to the downstream portion,” there is no motivation for the proposed modification of Kline.

Specifically, the Office Action includes the allegation that a paisley shaped baffle is “an obvious choice of mechanical design to alter the shape.” (Office Action at page 3). The Office Action further stated that the motivation to select a paisley shape was “to change the flow profile”. (Office Action at page 4).

As set forth above, the Federal Circuit has stated that “[the] factual question of motivation is material to patentability, and [cannot] be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to ‘[use] that which the inventor taught against its teacher.’” *In re Lee*, 277 F.3d at 1343-1344 (internal citations omitted).

The Office Action does not identify any art that discusses the advantages of a paisley shaped baffle. Moreover, the Office Action does not identify any authority for the conclusory statement that such a limitation is a mere design choice. This is particularly relevant in consideration of the fact that Kline discloses an orifice baffle and it is unclear how one could design an orifice type baffle to have a paisley shape. In contrast, the Applicant has explained the non-obvious benefits of these features of the

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claimed baffle, such as to impart a full turning action to the fluid while minimizing turbulence and pressure drops, and maintaining a circular center opening. (See Specification, paragraphs 27-29).

Therefore, it is respectfully submitted that the Examiner has failed to identify any motivation, suggestion, or teaching of the desirability of making the proposed modification to the prior art. Accordingly, The Examiner has failed to show a *prima facie* case of obviousness and the rejection of claim 39 under 35 U.S.C. 103(a) should be withdrawn.

2. King Has Been Mischaracterized

Moreover, claim 39 includes the limitation of "an inner edge arcuately extending from the upstream portion to the downstream portion." The Examiner has alleged that King discloses "an arcuate portion connecting the upstream and downstream surface portions." (Office Action at page 4). Respectfully, King has been mischaracterized.

Specifically, as recited in claim 39, the "inner edge" is an edge that is opposite to an edge that connects the baffle to the housing. FIG. 8 of King shows that the inner edges of the mixing elements (i.e. the edges not used to connect the mixing elements to the pipe) are straight. A straight edge is not an arcuate edge.

Accordingly, modifying Kline to include the straight inner edge of King does not arrive at the invention recited in claim 39. Therefore, under MPEP § 2143.03, the Examiner has failed to present a *prima facie* case of obviousness and the rejection of claim 39 under 35 U.S.C. 103(a) should be withdrawn.

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3. Conclusion as to Claim 39

Therefore, for any or all of the above reasons, the Examiner has failed to provide a prima facie case of obviousness. Accordingly, Examiner is respectfully requested to withdraw the rejection of claim 39.

*Discussion re claims 40-42*

Claims 40-42 depend from independent claim 35 and are allowable for that reason. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Independent claim 28 is nonobvious at least for the reasons set forth above, thus, claims 30-34 are also nonobvious and are patentable over the prior art.

**IV. Second 35 U.S.C. § 103 Rejection.**

Claims 28-42 were also rejected under 35 U.S.C. § 103 as being obvious over Kline in view of Matsumoto. Reconsideration of claims 28-42 in view of the following remarks is respectfully requested.

*Discussion re Claim 28*

1. **There is no Motivation to Combine the References**

The alleged motivation to modify Kline with Matsumoto mirrors the alleged motivation discussed above with respect to the proposed modification of Kline with King. (Office Action at page 6). For reasons similar to those set forth above, there is no motivation for the proposed modification.

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Specifically, in the rejection of claim 28, the Office Action includes conclusory statements but has not identified any art that discusses the advantages of a wider downstream baffle or of why such a teaching should be combined with an orifice baffle as taught by Kline, assuming *arguendo* that such a modification is possible. Moreover, the Office Action has not identified any authority for the conclusory statement that such a modification would result in better mixing. This is particularly troublesome in that the device of Matsumoto is intended to direct descending sewage against the outer portion of the pipe so as to maintain an open air column in the center of the pipe (Matsumoto at Abstract). "Mixing" of the sewage in Matsumoto, however, would result in disruption of the sewage stream and diffusion of the sewage throughout the diameter of the pipe thereby interfering with an open air column.

Thus, the Office Action does not set forth a sufficient basis or identify a proper source for the proposed motivation to combine the teachings of Kline with the teachings of Matsumoto. See *In re Lee*, 277 F.3d 1338, 1343-1344 (Fed. Cir. 2002)(internal citations omitted). Therefore, under MPEP § 2143.01, the Examiner has failed to present a *prima facie* case of obviousness and the rejection of claim 28 under 35 U.S.C. 103(a) should be withdrawn.

2. The Proposed Modification Does Not Arrive at the Invention of Claim 28

The Office Action describes a proposed modification of the orifice type baffle of Kline to include "a leading upstream surface portion and a trailing downstream surface portion." (Office Action at page 5). As an initial matter, it is not clear how this

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modification can be made to Kline's device in which each of the baffles 37-39 is "disc shaped and defines an elongated or oblong opening 40, 41 and 42 respectively therethrough." (Kline at column 4, lines 5-8 and FIGs. 3-5).

Moreover, while it is not clear how such a modification would be accomplished, assuming *arguendo* that a modification is made to Kline, any such modification would not arrive at the invention of claim 28. Specifically, the cited baffle in Matsumoto, baffle 24, is completely symmetrical about its midpoint. (See, e.g. FIG. 4). Thus, the trailing downstream portion is identical to the leading upstream portion. Accordingly, modifying the baffle disclosed by Kline to include the symmetrical baffle configuration of Matsumoto results in a baffle with a trailing downstream portion that is identical to the leading upstream portion. A trailing downstream portion that is *identical* to a leading upstream portion is not the same as a trailing downstream surface portion that is *wider* than the leading upstream surface portion as recited in the Applicant's claims.

Thus, modifying Kline to include the symmetrical baffle of Matsumoto does not arrive at the invention recited in claim 28. Therefore, under MPEP § 2143.03, the Examiner has failed to present a *prima facie* case of obviousness and the rejection of claim 28 under 35 U.S.C. 103(a) should be withdrawn.

### 3. Conclusion as to Claim 28

Therefore, for any or all of the above reasons, it is respectfully submitted that a *prima facie* case of obviousness has not been established and the Examiner is respectfully requested to withdraw the rejection of claim 28 under 35 U.S.C. 103(a).

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*Discussion re claims 29-34*

Claims 29-34 depend from independent claim 28 and are allowable for that reason. Specifically, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Independent claim 28 is nonobvious at least for the reasons set forth above. Thus, claims 30-34 are also nonobvious and are patentable over the prior art.

*Discussion re Claims 29 and 31*

Moreover, since the alleged motivation to modify Kline with Matsumoto mirrors the alleged motivation to modify Kline with King, the same arguments set forth above with respect to the separate patentability of claims 29 and 31 over the proposed combination of Kline with king applies to the proposed modification of Kline with Matsumoto.

Therefore, it is respectfully submitted that the Examiner has failed to identify any motivation, suggestion, or teaching of the desirability of making the proposed modification to the prior art. See *In re Lee*, 277 F.3d at 1343-1344 (internal citations omitted). Accordingly, The Examiner has failed to show a *prima facie* case of obviousness and the rejection of claims 29 and 31 under 35 U.S.C. 103(a) should be withdrawn.

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*Discussion re claims 35-38*

Claim 35 is an independent claim that was rejected on the same basis as claim 28. Claim 35 recites “a trailing downstream surface portion wider than said upstream surface portion.” This is the same limitation discussed above with respect to claim 28. Therefore, claim 35 is allowable over the cited art for at least the reasons set forth above with respect to claim 28.

Claims 36-38 were rejected on the same basis as claim 35. Claims 36-38 depend from independent claim 35 and include all of the limitations of claim 35. Therefore, claims 36-38 are allowable for at least for the reasons set forth above.

*Discussion re claim 39*

1. There is No Motivation for the Proposed Modification

An “obvious to try” argument was also applied to propose modifying the baffle of Kline to include an angled edge. To the extent this was intended to address the limitation of “an inner edge arcuately extending from the upstream portion to the downstream portion,” there is no motivation for the proposed modification of Kline.

Specifically, the Office Action includes the allegation that use of an angled edge is “obvious.” (Office Action at page 6). The Office Action further stated that the motivation to use an angled edge was to “lead to better mixing.” (Office Action at page 6). As was the case regarding the proposed motivation to modify Kline with King, however, the Office Action does not identify any art that discusses the advantages of an angled edge. Moreover, the Office Action does not identify any authority for the premise that such a limitation is a mere design choice. This is particularly true in consideration of

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the fact that Kline discloses an orifice baffle and it is unclear how one could design an orifice type baffle to have an angle defining an upstream and downstream portion.

Therefore, it is respectfully submitted that the Examiner has failed to identify any motivation, suggestion, or teaching of the desirability of making the proposed modification to the prior art. See *In re Lee*, 277 F.3d at 1343-1344 (internal citations omitted). Accordingly, The Examiner has failed to show a *prima facie* case of obviousness and the rejection of claim 39 under 35 U.S.C. 103(a) should be withdrawn.

2. King Has Been Mischaracterized

Moreover, claim 39 has been amended to recite that the arcuate edge defines a concavity. As discussed above, Matsumoto fails to disclose an inner edge that is curved so as to define a concavity. Thus, Matsumoto does not anticipate the baffle of claim 39, as amended, and the Examiner is respectfully requested to withdraw the rejection of claim 39.

3. Conclusion as to Claim 39

Therefore, for any or all of the above reasons, claim 39 is patentable over the cited art. Accordingly, Examiner is respectfully requested to withdraw the rejection of claim 39.

*Discussion re claims 40-42*

Claims 40-42 depend from independent claim 35 and are allowable for that reason. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim



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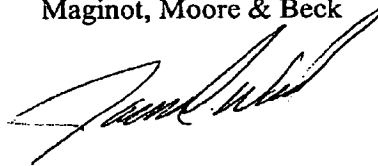
depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Independent claim 28 is nonobvious at least for the reasons set forth above, thus, claims 30-34 are also nonobvious and are patentable over the prior art.

**V. Conclusion**

Applicants respectfully request entry of the amendments and favorable consideration of the application.

A prompt and favorable action on the merits is requested.

Respectfully Submitted,  
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